

# **Performance Assessment**

**Ames Laboratory**

**Calendar Year 2001**



**U.S. Department of Energy  
Chicago Operations Office**

## I. SUMMARY EVALUATION

In accordance with the terms of contract W-7405-ENG-82 between the Department of Energy (DOE) and Iowa State University (ISU) for the management and operation of Ames Laboratory, the following report provides the Chicago (CH) Operations Office's written assessment of both the incentivized Performance Measures and the System Assessment Measures for the period January 1, 2001 through December 31, 2001.

As specified by the contract, the incentivized portion, of the Laboratory's performance is comprised of Performance Measures which are divided into two major categories, Science Programs and Critical Operations, with a summary adjectival rating issued for each category.

As a result of the Laboratory's research efforts in Calendar Year (CY) 2001, a performance rating of "Excellent" has been achieved in the area of Science Programs. In the area of Critical Operations an "Outstanding" rating has been achieved. The following matrix identifies the incentivized functional areas and ratings used in determining the performance fee for CY 2001.

### **PERFORMANCE MEASURES**

	Ames Self-Assessment Rating	DOE Rating	Final Rating	Weight
<b>Science Programs (Functional Area)</b>				
Science and Technology	Excellent	Excellent	Excellent	70%
<b>Critical Operations (Functional Areas)</b>				
Environment Safety and Health	Outstanding	Outstanding	Outstanding	15%
Leadership	Outstanding	Outstanding		10%
Cyber Security	Outstanding	Outstanding		5%

The System Assessment Measures (SAMs) are used to evaluate the General Operations of the Ames Laboratory. While important to the success of the Laboratory mission, the SAMs for General Operations are not deemed critical for performance of the mission and therefore, are not associated with fee. Fourteen separate functional areas constitute the CY 2001 SAMs. Each area was assessed and rated by the assigned functional area subject matter experts. The following matrix identifies the functional areas and their associated ratings:

### **SYSTEM ASSESSMENT MEASURES**

Functional Area	Ames Self-Assessment Rating	Final DOE Rating
<b>ENVIRONMENT SAFETY AND HEALTH (Functional Areas)</b>		
Environment Safety and Health	O	O
Environmental Operations	O	O
<b>BUSINESS OPERATIONS (Functional Areas)</b>		
Financial Management	O	O
Diversity	E	P
Procurement	P	P
Personal Property	E	E
Scientific and Technical Information	G	M
Information Management	O	O
Safeguards and Security	O	O
Cyber Security	O	O
Counterintelligence	E	E
Communications and Trust	O	E
<b>INFRASTRUCTURE (Functional Areas)</b>		
Facilities Management Maintenance Real Property	O	O
Energy Management	E	G

## **II. PERFORMANCE ASSESSMENT**

ISU and DOE have agreed to use a performance-based management system to measure Laboratory performance. The parties agreed, to the extent possible, to utilize objective performance measures as the basis against which the Contractor's overall performance would be determined. In addition, the parties also agreed that the Laboratory would conduct an ongoing self-assessment program to assess the effectiveness and efficiency of operational systems and procedures.

The following summarizes the Chicago Operations Office's written evaluation and rating of the Laboratory's performance. This evaluation is discussed in two sections, Performance Measures and System Assessment Measures.

## **A. Performance Measures**

### **1. Science Programs**

In the area of Science, an overall DOE rating of "Excellent" has been assigned. The overall rating is a composite of the Office of Science (SC) assessment (copy attached) of the Laboratory's scientific performance against three measures contained in the contract: 1) quality of research, 2) relevance to DOE missions and national needs and 3) effectiveness and efficiency of research program management. The summary rating combines the overall performance evaluations for program areas supported by the SC Offices of Basic Energy Sciences (BES), Biological and Environmental Research (BER) and Advanced Scientific Computing Research (ASCR). It is a weighted average of performance evaluations provided by each of these three offices. SC noted that the Laboratory has taken steps to address the issues first raised in the 1999 appraisal. The SC evaluation cited examples of the Laboratory's progress in managing and redirecting research activities to respond to the 1999 appraisal issues. Further judgment by SC of the effectiveness of changes made since the 1999 appraisal is pending the results of a peer review of the Metal and Ceramic Sciences program conducted in May 2002.

The SC overall rating is consistent with the Laboratory's self-assessment rating for Science Programs Performance Measures of "Excellent".

### **2. Critical Operations**

The Chicago Operations Office has assessed Ames performance in this area as "Outstanding".

This performance rating is based upon the Laboratory's level of performance achieved against the Critical Operations performance measures contained in the contract. The following provides a brief summary of each of the three functional areas, Environment Safety and Health (ES&H), Leadership, and Cyber Security.

#### **i. Environment Safety and Health**

The Chicago Operations Office has assessed Ames performance in this area as "Outstanding".

The Laboratory's Integrated Safety Management System (ISMS) continued to improve during CY2001. The Laboratory has accomplished each of the identified actions to support the improvement of the ISMS which included the following key items:

- conducted a review and updated the Work Smart Standards,

- enhanced the utilization of the hazard inventory/job task analysis forms as part of the hiring process for new employees,
- assessed the Readiness Review Process for effectiveness in identifying hazards associated with the work tasks performed, and
- developed an inventory of approved Readiness Reviews of experimental and work activities for group/section leaders and program directors/department managers.

The Laboratory's commitment to ISM has resulted in safe performance of work during CY 2001. The prime example of this continuing commitment to a safe and healthy work environment is the Readiness Review process, which continued to improve over the past year. The review process has successfully brought line management and ES&H experts together to evaluate new and existing work activities and identify hazards and controls necessary to perform work safely.

Line management involvement and accountability for ES&H continues to be a high priority for the Laboratory. Safety is an integral part of the work performed at the Laboratory from top management down through each level of the organization. The combined walk-through process of each program and department by all levels of Laboratory management and ES&H experts is an excellent example of the Laboratory's management involvement in ES&H and ISM process.

There are many examples of line management involvement. In one particular instance a line manager's quick response of stopping the work and forming a review team after an unexpected and unidentified material (a by-product of a material process) was discovered. The material was identified as white phosphorus, which rapidly burns when contacted with oxygen. A process to safely change the material to red phosphorus, which does not rapidly burn when exposed to oxygen, was implemented. The end result was that the process was completed safely.

ES&H performance is evaluated throughout the year via routine operational awareness activities conducted by the CH Ames Area Office Facility Representative and CH matrix support staff. Operational awareness activities include monthly independent walk-through inspections, functional area reviews and review and discussion of operational information and reports. During CY2001 inspection findings decreased by 16.3 %, with significant decreases in specific areas such as electrical safety which was down by 38 %.

During CY 2001 the CH Ames Area Office conducted functional reviews of the Emergency Management Program, and Transportation Compliance. Overall, both of these major program areas were found to be well implemented. The Laboratory also revised and upgraded their Quality Assurance Program during the year.

Overall, the Laboratory's injury and illness data for CY2001 support the "Outstanding" rating. Although up from CY2000 rate of 0.3, the Laboratory's Lost Workday Case Rate was still below the mean of DOE research facilities at 0.9. The Cost Index for CY2001 at 6.5, was also well below the mean of DOE research facilities of 8.5. The Total Recordable Case Rate for Ames of 3.8 was well above the DOE research facility mean of 2.4. This rate has dropped from 3.8 to 2.8 during the first quarter of CY2002 and the Laboratory continues to look for opportunities to further reduce injury.

Based on the review of the Laboratory's self-assessment, operational awareness activities and trends is reported safety data, the Chicago Operations Office evaluation of the Laboratory's performance in the area of ES& H is consistent with the Laboratory's self-assessment rating of "Outstanding".

## **ii. Leadership**

The Chicago Operations Office has assessed Ames performance in this area as "Outstanding".

The purpose of this measure was to assess how senior contractor and Laboratory managers execute and bring about organizational performance that most effectively fulfills the Laboratory's defined mission and supports DOE's strategic objectives. In addition DOE expected the University and Laboratory leadership to be actively involved in the establishment and review of programmatic and operational performance goals and expectations.

As stated in the Ames self-assessment, Ames utilizes many processes which involve both Laboratory and University management in the review and direction of work. The Laboratory managers take an active role through preparation of the Institutional Plan, performance reviews and monthly meetings with the Executive Council and the Program Directors.

The University Management plays an important role through interactions with senior Laboratory management including monthly meetings between the Laboratory Director and the Vice-Provost and monthly meetings with the Laboratory Director and the Academic Leadership Council. Many of the members of the Executive Council, Program Directors and principle investigators are also faculty members of the University.

The Laboratory, in coordination with the University, has used these processes during the CY2001 term to effectively direct and/or redirect research efforts to align with the DOE mission and to effectively manage operational activities. Ames Laboratory is widely recognized for continued excellence in research. Ames was recognized by DOE in the CY2001 Institutional Planning review for undertaking significant efforts at reducing costs throughout operations and was noted as a leader in providing a cost-effective setting to conduct the Department's research programs.

It is evident, based on the Ames self-assessment and through DOE interactions with the Laboratory and the University that the leadership is actively engaged in the establishment and review of programmatic and

operational performance goals and expectations. DOE interactions include routine informal meetings and formal participation in the Institutional Planning Review, scientific and other reviews of business systems and operational reviews focused on environment, safety, health and security.

The Chicago Operations Office rating as stated above is consistent with the Laboratory's self-assessment rating of "Outstanding".

**iii. Cyber Security**

The Chicago Operations Office has assessed Ames performance in this area as "Outstanding".

This functional area consisted of two measures which required the Laboratory to complete the Risk Assessment and the Vulnerability Assessment within specific time frames. The Laboratory met both of these deadlines.

The Chicago Operations Office rating as stated above is consistent with the Laboratory's self-assessment rating of "Outstanding".

**B. System Assessment Measures:**

**1. Environment, Safety & Health**

**i. Environment, Safety & Health**

The Chicago Operations Office has assessed Ames performance in this area as "Outstanding".

The ES&H functional area included two specific measures, average Total Effective Dose Equivalent and Total Recordable Case Rate. The Laboratory's results for the performance period equated to a rating of "Outstanding" and "Excellent" respectively for these measures.

In addition, the Laboratory has completed the requirements of 7 of 8 Opportunities for Improvement (OI) identified in the previous year's Self-assessment. The only OI not fully met was the reduction of laceration injuries. The Laboratory did have an increase in the number of laceration injuries in 2001 despite considerable efforts at prevention. The Laboratory's efforts to reduce the number of lacerations included: additional training, discussions at monthly safety meetings, and improvements in the Readiness Review process.

The significant changes in the Laboratory's procedures and practices, identified in the Self-assessment, demonstrate a continuing effort to improve the ISMS.

Trending and analysis was performed to determine common occurrences or events that could be precursors to more significant occurrences. Sources of the trending and analysis information include: inspection findings, employee

concerns, injury/illness data, event reports, and discrepancy reports. The trending and analysis at the Laboratory provides excellent feedback for continuous improvement. Based on the Laboratory's analysis, additional attention in the form of increased inspections, training, and/or procedure and policy changes is applied to the issue as necessary.

The Chicago Operations Office rating as stated above is consistent with the Laboratory's self-assessment rating of "Outstanding".

## **ii. Environmental Operations**

The Chicago Operations Office has assessed Ames performance in this area as "Outstanding".

The Laboratory has implemented and maintained a program to promote efficient use of natural resources through the purchase of recycled content products. For CY2001, the Laboratory purchased Environmental Protection Agency (EPA) designated items to the maximum extent practicable, attaining an affirmative procurement rate of 83%. This equates to a performance level for of "excellent" for this measure. During CY2001, the Laboratory sufficiently addressed the opportunities for improvement identified in the CY2000 self-assessment. Waste management and pollution prevention activities/waste minimization programs continued to demonstrate successful results. Considering the Laboratory's performance against the specified performance measure in this area and taking into consideration the significant achievements identified in the self-assessment,

The Chicago Operations Office rating as stated above is consistent with the Laboratory's self-assessment rating of "Outstanding".

## **2. Business Operations**

### **i. Financial Management**

The CY 2001 Chicago Operations Office rating for this area is "Outstanding". The rating was based subject matter expert comments which included the following:

- The system measure for zero billing errors was met and the Laboratory met the requirements for the uncoded balance measure except for KC02.
- The Ames self-assessment noted no problems with the required review areas.
- Ames submission of reports including financial statements, indirect rate submissions, and budget submissions, were all considered outstanding.



- Review of the three compliance items, cost accounting standards, unallowable costs, and related party transactions disclosed no compliance problems.
- Ames travel costs continue to be under the travel cost ceiling.

In addition, to the above mentioned items, Ames Laboratory maintains outstanding interaction and communications with the Chicago Operations Office.

The Chicago Operations Office rating as stated above is consistent with the Laboratory's self-assessment rating of "Outstanding".

## **ii. Diversity**

The Chicago Operations Office has determined that the Laboratory's performance in the functional area of Diversity was satisfactory and has assigned a rating of "Pass".

The purpose of the Diversity measure was to establish that the Laboratory maintains a systematic approach to the recruiting and retention of new talent from diverse populations and continual attention to training and self-renewal. The self-assessment identified the process utilized during CY 2001 to recruit for the one vacancy in their scientific population. While this process demonstrates additional efforts by Ames to recruit a more diverse staff, they did not include complete discussions of all items identified as self-assessment topics nor did they provide sufficient data to support their self-assessment rating of "Excellent".

After several discussions with the Laboratory and acknowledging the fact that Ames has not been able to demonstrate performance in this area due to lack of opportunities for recruitment, DOE and the Contractor determined that an adjectival rating was not appropriate to apply to the Diversity measure in CY01. Instead, the Diversity program was considered as a pass/fail measure.

Therefore, the Chicago Operations Office does not concur with the Laboratory's self-assessment rating of "Excellent" and has assigned a rating of "Pass".

## **iii. Procurement**

The Chicago Operations Office has determined that Ames performance in the functional area of Procurement was satisfactory and has assigned a rating of "Pass".

The Procurement Functional Area is rated on a "pass/fail" basis. The Procurement functional Area has received a rating of "Pass" for CY 2001, based on the following:

- The Laboratory performed a Balanced Score Card (BSC) assessment of the procurement function in which the Laboratory exceeded the DOE established targets in 9 of 11 BSC objectives. As in previous years, Supplier Management was just below the DOE target and the Laboratory did not meet the HubZone Small Business goal established by the Subcontracting Plan for CY 2001. These two items are considered minor in nature and the Laboratory is pursuing new ways to meet these targets in the future.
- Ames Laboratory addressed all items identified as part of the self-assessment scope; and
- Ames Laboratory received approval of their purchasing system on October 24, 2001 following an on-site review by the CH Ames Area Office. In addition, the Laboratory provided a comprehensive corrective action plan addressing the observations and recommendations identified in review.

The Chicago Operations Officer rating as stated above is consistent with the Laboratory's self-assessment rating of "Pass".

#### **iv. Personal Property**

The Chicago Operations Office has assessed Ames performance in this area as "Excellent".

The Ames Laboratory Property Services Office assessment utilized the DOE Contractor Personal Property Management BSC Performance Measurement and Management Program to assess their CY 2001 performance. The rating stated above was based on the following:

- The Laboratory followed the DOE Contractor Personal Property Management BSC Performance Measurement and Management Program, utilizing the guidelines BSC Self-Assessment (BSCSA) report.
- The Chicago Operations Office review of the BSCSA against the plan found the report to be adequate with all issues addressed.
- Recognition that the Laboratory maintained excellent inventory results and met or exceeded all but one of the CY 2001 BSC performance expectations.

The Chicago Operations Office rating as stated above is consistent with the Laboratory's self-assessment rating of "Excellent".

#### **v. Scientific & Technical Information**

The Chicago Operations Office has assessed Ames performance in this area as "Marginal".

The expectation for the Science and Technical Information measure was to have all of the unlimited-distribution technical reports, published by Ames, available to the DOE-OSTI InfoBridge in full-text electronic format. However, due to personnel turnover at the Laboratory the conversion to the new system was delayed. This delay coupled with the advanced schedule for implementation greatly hindered the Laboratory's ability to meet the 100% measure. The Laboratory was only able to upload 34% of the releasable documents, which is well below the numerical expectation for CY2001.

There are two mitigating factors which have been considered by DOE. The Laboratory has made a significant effort to address the opportunities for improvement identified in CY2000, which will facilitate continued program implementation. Secondly, the Laboratory has received an award from the Secretary of Energy for their successful completion of the transition from paper to electronic technical information reporting well ahead of the DOE goal.

So, while it is apparent that the Laboratory has not met their goal of 100% submission to OSTI, they have made significant efforts to develop a system which will facilitate the transmission of these reports. In addition, they have made a commitment to uploading the backlog of reports and to meeting the 100% goal in CY2002.

The Chicago Operations Office does not concur with the Ames self-assessment rating of "Good" for this functional area. As defined in the contract a "Good" rating, "meets the standard of performance; assigned tasks are carried out in an acceptable manner – timely, efficient and economical; and deficiencies do not substantively affect performance."

While the Laboratory's performance in this area does not meet the definition of "Good", neither is a rating of "Unsatisfactory" appropriate considering the mitigating factors discussed above. Therefore the Chicago Operations Office has assigned a rating of "Marginal".

#### **vi. Information Management**

The Chicago Operations Office has assessed Ames performance in this area as "Outstanding".

The mission of the Laboratory's Information Systems department is to provide administrative application development and support; central access to file, print, e-mail, and application servers; reliable, scalable and easily managed network communication infrastructure; and desktop service support to all Ames Laboratory programs and departments.

In CY2001 Ames Laboratory completed 3 of 4 improvements identified in the FY2000 self-assessment for the Computer Network Infrastructure area. In addition, they completed 5 of 6 improvements in the Information Systems area as well as making significant other improvements to their systems.

The Laboratory has provided all information management related budget data (per OMB A-11) and has maintained good communication with the

Chicago Operations Office regarding the Laboratory's Information Technology Capital Planning.

The Chicago Operations Office rating as stated above is consistent with the Laboratory's self-assessment rating of "Outstanding".

**vii. Safeguards and Security**

The Chicago Operations Office has assessed Ames performance in this area as "Outstanding".

CH conducted an on-site inspection of the Laboratory's Safeguards and Security Program in September 2001. No findings were issued during this inspection. Ames Laboratory continues to comply with appropriate DOE Safeguards and Security orders and demonstrates proactive safeguards and security measures.

In addition, the Laboratory performance against the Measures and Expectations outlined in Appendix B has been found to be "Outstanding".

The Chicago Operations Office rating as stated above is consistent with the Laboratory's self-assessment rating of "Outstanding".

**viii. Cyber Security**

The Chicago Operations Office has assessed Ames performance in this area as "Outstanding".

The objective of this functional area was to develop and maintain a comprehensive cyber security program consistent with DOE directives and guidelines.

During CY2001 Ames succeeded in addressing 100% of the vulnerabilities within schedule and provided training to all network personnel responsible for cyber security. These two achievements correspond to ratings of "Outstanding" based on the rating scale provided in the contract.

In addition, the self-assessment in this area addressed significant changes, assessed and reported on the effectiveness of cyber security efforts and identified opportunities for improvement. This assessment was reviewed by the Chicago Operations Office subject matter expert and considered to be sufficient to justify a rating of "Outstanding".

The Chicago Operations Office rating as stated above is consistent with the Laboratory's self-assessment rating of "Outstanding".

**ix. Counterintelligence**

The Chicago Operations Office has assessed Ames performance in this area as "Excellent".

In CY 2001 there were no reportable contacts or elicitation attempts. However, the Laboratory has established the proper systems to address potential for this to occur.

The CY 2001 self-assessment for the CI functional area identified significant achievements and some areas for improvement that were validated by the CH subject matter expert. During CY2001 the Laboratory implemented a counterintelligence agreement with the Ames Area Office and the CH Program manager and completed the counterintelligence training required by the foreign travel order.

In addition, the Laboratory has done an excellent job of providing timely submissions of notifications concerning visits and assignments of Foreign Nationals as data is being entered into the FACTS data base. However, foreign travel conducted by Ames Laboratory Scientists has not been submitted on a timely basis and some trip reports are still outstanding for trips that were taken over a year earlier. Ames has identified this as an opportunity for improvement and has proposed corrective actions to rectify the situation.

The Chicago Operations Office rating as stated above is consistent with the Laboratory's self-assessment rating of "Excellent".

#### **x. Communications & Trust**

The Chicago Operations Office has assessed Ames performance in this area as "Excellent".

The Communications and Trust measure was based upon the achievement of nine significant performance goals which were established and agreed to in the contract. An adjectival rating was assigned using an objective scale based on how many performance goals were achieved.

The Ames self-assessment indicates that they have achieved 8 of the 9 objectives which would equate to a rating of "Outstanding". However, a validation review performed by the CH subject matter expert indicated the following:

- two of the performance goals (#5 brown bag luncheons and #7 local/state/federal introductions) have accomplishments listed which do not fit the requirements of the goal;
- the first performance goal of self-assessment, while completed, provided a description of the Ames Public Affairs mission as opposed to a true self-assessment; and
- the Laboratory made no effort to accomplish Goal 9 despite Ames Laboratory suggesting to CH that this was a needed item.

Based on this information the Laboratory achieved only 6 of the 9 performance goals and therefore received a Chicago Operations Office rating of "Excellent" which is inconsistent with the Laboratory's assessment of "Outstanding".

Opportunities for improvement:

The Laboratory should focus on providing a comprehensive self-assessment which focuses on the Laboratory's performance. In addition, to the overall assessment should identify strengths and weaknesses and propose corrective action plans.

The Laboratory should develop a blueprint for public affairs activities which identifies the themes/messages which the Laboratory considers most important for the year.

### **3. Infrastructure**

#### **i. Facilities Management**

The Chicago Operations Office has assessed Ames performance in this area as "Outstanding". This area consists of both Maintenance and Real Property.

##### **a. Maintenance**

Ames maintenance is considered accurate and consistent with the CH Operation Office's knowledge and observations of this area. The data and rationale for the rating for both of the measures and the self-assessment are reasonable and valid and therefore an overall rating of "Outstanding" is appropriate.

##### **b. Real Property**

There are two measures within this area. One measure is to maintain a reliable real property database. The Laboratory does this by ensuring that information reported in the Facility Information Management System (FIMS) is current, accurate and complete. The completeness and timeliness of the Laboratory's data is reflected in the FIMS status reports. For CY2001 all required data fields for buildings, land, and other structures and facilities within FIMS were current, complete and accurate. Therefore the Laboratory has earned a rating of "Outstanding" for this measure.

Optimization of the total primary office space is the second measure for this area. Based on the objective scale established in the contract the Laboratory performance for this measure equates to a rating of "Marginal". Chicago Operations Office concurs with this rating. However, it should be noted that the Laboratory is a Government owned building controlled by the Laboratory and space cannot be turned back to the University, nor may the space be excessed. In addition, space utilization is dependent on staffing levels. While there are changes in

staffing levels, the amount of Government owned space remains constant.

While the Laboratory had a difficult time meeting the goals stated for the optimization of office space measure, there are mitigating circumstances beyond the control of the Laboratory. Based on their performance on the remaining measures and taking into consideration the circumstances discussed above CH concurs with the Laboratory and assigns a rating of "Outstanding" for the Facilities Management Area.

## **ii. Infrastructure Energy Management**

The Chicago Operations Office has assessed Ames performance in this area as "Good".

The Laboratory completed their Comprehensive Energy Management Plan on schedule to receive a rating of "Outstanding".

The second measure addressed the Laboratory's ability to complete specific items in the 2001 Laboratory Comprehensive Energy Management Plan. Four items were scheduled for completion and according to the self-assessment three of the items were completed.

CH concurs that the lighting survey was completed and that the second item of IHEM project proposals was not necessary based on the results of the lighting survey. The third item listed as completed was the development of a program to monitor fume hood operation and according to the self-assessment this program requires further development. The fourth item, an energy and water survey of the Materials Development Building was not completed as planned. This performance would equate to a "Marginal" rating.

For the third measure, Ames' reduction in energy use equated to a rating of "Good".

The Chicago Operations Office final rating of "Good" is inconsistent with the Laboratory's self-assessment rating of "Excellent."

## **FEE DETERMINATION:**

The Ames Laboratory achieved an "Excellent" rating for the Science Programs. Critical Operations consisted of three functional areas; Environmental Safety and Health, Leadership and Cyber Security. Each Functional Area was rated individually as "Outstanding". The Performance Fee Matrix, Attachment 2, uses these performance ratings to calculate a CY-2001 fee of \$79,000.00.

Attachments:

Office of Science Assessment of Ames Laboratory  
Scientific and Technological Programs  
Dated: April 4, 2001

Performance Fee Matrix